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ABSTRACT

The software "Breakthrough to Literacy" was introduced in kindergarten classrooms in a suburban school district in 1999 and focuses on oral language development. Through observations, the author studied the effects the software had on individual children's oral language and pre-reading readiness skills. Along with reading skill development, oral language and thinking skill development were also observed. The purpose of this study was to observe the effects of the software on both the reading and oral language development at the kindergarten level. The population involved three children selected at random. Results indicated that the software provided the children with a strong reading base. Results also showed that oral language development and reading skills had continued to grow and develop. When the study was completed, the three children were interviewed separately. Each child spoke positively about the software and was excited to be reading. (Contains 13 references and 5 tables of data. Appendixes contain 3 additional tables of data.) (Author/RS)

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The Effects of Breakthrough to Literacy on Oral Language Development at the Kindergarten Level

ED 452 550

Dana E. Tancredo

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CS 217 515

Abstract

The software Breakthrough to Literacy was introduced into a suburban school district in 1999 in kindergarten classrooms. It was software that had one of its focuses on oral language development. Through observations, I studied the effects the software had on the individual children's oral language and pre-reading readiness skills. Along with reading skill development, oral language and thinking skill development were also observed.

The purpose of the study was to observe the effects of the software on both reading and oral language development at the kindergarten level. The population involved three children selected at random. The study found that the software provided the children with a strong reading base. It also showed that oral language development and reading skills had continued to grow and develop. When the study was completed, the three children were interviewed separately. Each child spoke positively about the software and was excited to be reading.

Chapter 1
Introduction

Problem Statement

As a new piece of software in our already existing reading program in the kindergarten the software Breakthrough to Literacy has brought about changes in my students and classroom routines. After its introduction in 1999, I noted that children were using words beyond the kindergarten level, building self-esteem in the areas of reading and writing, and developing an interest in learning to read new books. The software, designed to accommodate the different age levels in the room ranging from five to six year olds, meets the many different needs of the children. After observing the results of the use of this software during the 1999-2000 school year. I decided that a closer analysis of its effects would be in order. For these reasons I decided to research its effects on oral language development for my master's degree thesis. This study took place in the 2000-'01 school year.

My kindergarten class served as the population for my study. Every child in my class was enrolled in the program at the appropriate level. Through the process of observing and time spent with the children, I was ready to start them on their way using the program at the beginning of October. The children were at a variety of levels within the four main levels: language acquisition, early emerging, upper emerging and early fluency.

The program is set up so the teacher can read all clicks and guesses that each child makes. The teacher's records show what the children are mastering, what they are working on and most importantly what they are struggling with. Once into the records, the teacher is then able to move the children up or down levels according to what is seen as appropriate movements. The software also provides the child with the necessary support and challenges to achieve success.

As questions related to children's progress occurred, I began my research. The most important question was how the software was accomplishing its goal of developing oral language skills. Many activities of the software are geared towards helping the children work on and strengthen their oral language skills. My research questions may be restated as "What are the effects that BTL was having on the children's oral language skills?"

In what ways is BLT helping to develop their oral language skills? This is what I, the researcher, had decided to study. The purpose of this study was to find what effects BLT is having on the children when they enter kindergarten and start to use this software for the first time. Through observations, videotaping and interviews I discovered the changes that occurred in their writing skills and their oral language. I also discovered how as a group they worked together using each other's skill abilities for support.

The program comes with a variety of activities. There is the software itself, the big books that have six small readers to allow for choral reading and independent reading. It comes with black and white paper books that the children receive after working through the big book. They color in these books and can give a new ending to each. This is one of the activities that I used in my study. A stuffed animal at the computers and also in the program acts as a support figure.

Knowing all of the components playing into the questions, I decided to pursue my study by researching current learning theories. This led to work of Gardner. Gardner developed a theory based on his research that found seven different types of intelligences. He found that each person learned and acquired knowledge and skills through one or more of these seven types. As stated in his book, *Frames of Mind,* the seven intelligences all work in harmony and when closely studied, the intelligence and its nature are seen with clarity (1993).

I compared BLT and all of its components to the seven different types discussed by Gardner. The focus was on linguistics and spatial intelligence. In the study some of my questions were what intelligences, if any, does the program utilize and develop? How was it providing the different learners in my classroom the same opportunity to learn a skill as a child that falls into a different intelligence type? What opportunities was BTL providing for development in the classroom?

When comparing BLT to Gardner's seven intelligences, BTL did have activities in the program that correspond to each of the seven different intelligences. Through big books, take-me-home-books and the software itself, BLT had activities for each of the different types of learners to develop and grow through activities (Gardner, 1991).

Having this information and comparing the program to Gardner's theory, I was led to yet another question. What effects will be seen when kindergarten children use the software? How does it affect their oral language development and what are some of the changes that will be observed in the classroom? These are the questions that were important as I began my study.

Setting

The research took place at an elementary school. It is a suburban school with its population consisting mainly upper middle class families. There were approximately 420 students from kindergarten level to the fifth grade. The incoming kindergarten class consisted of 53 students with 17 students in the room where the study took place. The students ranged from four

years of age to six. I studied three of the kindergarten students while they interacted and engaged themselves in the program.

The first two observations were of two children while they interacted in various group discussions and activities. I added a third child during the second half of the second observation. During the study a journal of field notes was kept for reference. My main role during the three months was to be an observer. I gave support and guided the students as a teacher and I introduced the specific activities.

Through a process of observations and analysis, I understood better the effects that Breakthrough to Literacy had on the three student's oral language development and pre-reading skills. I noted an improvement during the study of the students' oral language skills. My role of being an observer changed as the children's skills develop. I was able to sit back more and as stated above, I introduced the activity then left the children were on their own to work in their group.

Not only were oral language and pre-reading skills observed as they developed, but other areas of growth began to emerge. The first one was the environment that was emerging with each activity. The children were beginning to create their own constructivist environment. Guidance and support were given as needed and it was evident in the children that excitement and self-esteem were building daily.

The second area of study focused on thinking skills. The children were challenging themselves at their own skill levels. They were reflecting on words that they had heard on the computer and on skills that they had observed others doing in the classroom. Skills such as sounding out and relating pictures to stories were noted also. They reflected on field trip experiences and were able to relate them to activities that they were doing at that time. In addition to pre-reading skill development, thinking skills were also developing in each of the children.

Narrative

I observed two students in my classroom, chosen at random. There were a girl and boy, Lucy and Greg respectively. My first observation on October 6, 2000 took place in the classroom. I started the conversation by asking the children where we had gone the day before. Greg started off by repeating the question and then started to think about it before responding. Lucy started to play with her paper, avoiding the question. They both were a bit hesitant at responding. Lucy, more so than Greg, hesitated when responding to questions. I felt they thought that there was a right or wrong answer. Lucy seemed to wait to see what Greg had to say before responding.

I then asked them to tell me about the bus ride. I wanted to know if they liked it and what they did on the bus. I thought this would spark their interest because they had only been riding the school bus for a few weeks. Again Lucy avoided the question by stretching in her seat. Greg was concerned that I wanted to know something "bad" that happened on the bus. Nothing "bad" had happened, but Greg needed clarity. Finally Lucy said it was fun. I think Lucy had more fun on the bus ride because her mom was on the bus with her and Greg's mom was not.

The third question whether or not they liked farmer John and why, gave me the same responses from Lucy. She said, "I don't know". Instead, she talked about her teeth for a bit. It was also at this point that Greg laughed at Lucy's response "I don't know". I think he was starting to realize that Lucy was not into the conversation and was not equally participating. Greg started the conversation about farmer John. After hearing what Greg had to say, Lucy added that he talked about honey and apples. Next I asked the children if they remembered walking through the apple orchard and what they remembered about the trip. Lucy said, "the apples". Greg took time to think about it before responding. Greg is the type of student that wants to be correct and prides himself on working to the best of his ability. This is seen in our conversation when he responds "The field trip", or " Something good or something bad?" He tries to restate the question back to me to make sure he is thinking about the right thing. He then thinks through it. Greg talked about

the bees and Lucy joined by saying, "it sorted apples". She was expressing her experience with this answer and reflecting on that experience.

When it came time to ask the fifth question, I focused on the apple-sorting machine. This question struck interest with both children. Lucy was excited and said that it was a lot of fun. Greg started out by again clarifying the question. He then said that it was cool.

The conversation ended with the bus ride as the topic. Greg and Lucy both got into the conversation right away. Greg showed interest in where he was sitting, while Lucy talked about how tired she became. Lucy's mom was on the bus with us and Lucy fell asleep on her mom's shoulder.

Observing and listening to their comments and change of interest, I asked the children to draw a picture about the trip. Lucy started right away on drawing a school bus. She talked through her actions and started to draw a yellow bus. Greg, as he has done in the past, restated the question "you mean when we just went to the field trip". Greg and Lucy were talking back and forth about the trip and what each liked about it.

In the first observation I saw Greg, take on a dominant male role. He usually had the first thing to say and that led the conversation to some extent. Both children enjoyed the trip for different reasons as was evident in their conversations. The environment during the activity was a positive one. This was observable through their responses.

Lucy moved around in her chair and played with items that were at her fingertips. Her attention was easily changed and she did not focus on the questions for long. Lucy showed interest in other objects around her. She played with a variety of objects such as her lips, paper, and hair. While observing these actions, I began to think about the two children and wondered if this combination would work.

Through this observation I began to rethink the number of students I was observing. Lucy sat back for most of the time and Greg really took the lead. Would one more child be in the best

interest of Lucy and the entire study? I decided to observe one more time before making a change in my population.

Observation 2

My second observation took place in a second grade classroom, on October 13, 2000. The children had second-grade partners and were asked to complete an acrostic for the word OCTOBER. The second grade teacher and I demonstrated this process and how to choose the different words. I was pleasantly surprised by their responses and we decided to set them on their way. This activity provided an opportunity to observe Lucy work with children other than Greg, in a group setting. She had various answers, but overall she was more of an observer and listener. Greg, on the other hand, was really engaged in the project. At different points he shared his ideas and challenged his second grade partner with an original response. At times Greg was insistent and was not very willing to compromise on answers. He eventually did so with some obvious regret.

After giving various examples, the second grade teacher and I sent the children to centers to get started on the acrostic. Lucy was paired up with two second grade girls. Lucy was trying to come up with words that would fit into the letters of October. She did come up with a few of the words on her own such as "October is fun; bats fly at night and eating candy". However, Lucy did move around a lot, and wait for the second grade girls to give answers to the acrostic. Lucy became more involved when it was time to color the picture.

Greg on the other hand took the lead. He had only one partner, a second grade boy. He was giving a lot of ideas such as "October, costumes, treats and a bat". Being able to give suggestions for responses, Greg was showing me that he was using some reading-readiness skills and that he was developing them through the activity. He was showing that he knew letters and their sounds and was also able to put that together to come up with words for the acrostic. Greg at one point was really challenging the second grade partner as to what was going to be put down on

the line. He wanted something different from what the other child had said. The second grade child wanted to put red devils for the letter r and Greg wanted the word red for fire prevention week. He was a bit upset with what his partner had chosen, but in the end said it was "ok".

This observation allowed me to see who was able to use the different letters sounds and to what extent. The environment was a positive one. It allowed for the children to be challenged when using their pre-reading skills. I then began to wonder about Lucy and her confidence when put in a group with only one other person, a boy. Maybe because Greg is a natural leader, she was feeling intimidated and so another child in my study might work to Lucy's advantage. This is where Julie, a classmate of Lucy and Greg, came into the study.

Additional child joins the research group

After we returned to our classroom, I decided to continue my second observation. Julie, a girl, joined Greg and Lucy in the second half of the observation. I hoped that by doing this Lucy would feel more comfortable and confident. I chose a girl to see if that is what Lucy needed. Here is what happened.

I asked Greg and Lucy to sit in a group and told them that Julie would be joining us this time. I pulled out their acrostics and asked them to look them over and explain to Julie what they did and to tell her what the words on the paper were. Right away Julie and Lucy sat next to each other and started to work together. Greg also started to talk about his acrostic but by himself. Adding Julie into the group did not seem to affect Greg and his effort and comfort level. He just went right on working and trying his best. The feelings during the activity with all three children were positive.

Greg went right to the words and started to "read" them to Julie. Lucy on the other hand, said what she was thinking. I knew that she did not remember all of the words and was unable to use that skill for reading readiness. Meanwhile, she was thinking back on what she had done earlier in the second grade classroom. Lucy finally leaned over to Julie and asked her "do you

know what this says?" This was interesting because Lucy said for Julie to sound it out. Lucy covered half of the word and then the other half trying to help Julie sound it out. Julie can already read very well, but Lucy is not able to gage that yet. Lucy was using a reading readiness skill. She was looking to Julie as her model and wanted to try to use some of the same reading skills that Julie was using.

Greg continued on with his words. This was noteworthy because he read, "Red is for fire prevention." That is what he wanted his partner to write instead of red devils. This adherence to his own opinion further demonstrated Greg's autonomy to use his own words. As Greg and Lucy were reading they realized that they had the same words and were excited about that. Julie read the words for Lucy and helped her along.

Summary

This observation confirmed that having a second girl, Julie, added to the group helped Lucy feel more confident. They grouped themselves together and learned from each other. Greg just kept right on working and also including himself in the group even though the two girls really pulled together. This would improve with time, but at least it was a start.

Lucy had a lot more to say in this activity as compared to the first observation, however she was still putting her hands to her lips, stretching and saying, "I don't know." Greg continued on his merry little way and was very expressive. He gave responses and voiced ideas frequently.

Julie was also very involved in the conversation and was interacting with Greg and Lucy; in fact, all three interacted with one another. I was less involved and did not prompt the children as much as in the observation of October 6, 2000. I did start the conversation with only a bit of guidance.

Observation 3

My third observation took place in the classroom on October 20, 2000 and was captured on videotape. I had the three children sit at a round table. In the center of the table I placed a pile

of books. Some of the books we had read together as a class, while others we had not yet read. In the second observation, the three children talked about and recited titles and lines from books we had not read, so I added them to the pile to give the children a comfortable feeling. Up to this point the children had been working on the computer for three hours and forty-five minutes. Here is what happened.

Lucy decided to place the books according to her liking in a pile on her pencil box. She was definitely more interested in completing this pile than opening a book. Julie jumped right into the books, chose a few and began to read them word for word. This did not surprise me because Julie came into my classroom in September already reading. Greg seemed to pick the books that we had all together or ones that he had listened to on the computer himself. He used the pictures to guide him and even put in a few of his own words. His reading readiness skills were really shown during this observation. His skills were growing and he was reaching a new level. This advancement gave him more confidence as he worked with the different books.

As the observation continued, I noted Lucy just sitting intensely observing Julie as she read through the books with ease. Lucy tried to keep up with her by adding a few words here and there. Lucy used the pictures as her guide, which was a reading readiness skill. Lucy was able to "read" the titles along with Julie. Lucy was trying her best and was developing her reading readiness skills by working along side of Julie. Lucy showed her desire to learn to read by choosing to observe Julie, someone she knew could already read. Greg at this time was doing his own thing. He had chosen different books and did not seem to care about the books that Julie and Lucy were reading.

Greg continued to "read" other books. At one point I observed him using his reading readiness skills while "reading" through a book that we had read in class all together. He had all the words correct. When I looked over at Julie and Lucy, Lucy was excited because Julie had the book Pumpkin next on her pile as did Lucy.

We ended the observation with the book Pumpkin. Greg and Julie were "reading" through the lines, while Lucy was only chiming in for the words "jimpkin, jumpkin we all had pumpkin".

Summary

This observation provided more information of Julie's oral language skills and how she uses them for reading. I also noted Greg's strong desire to read. He had many of the reading readiness skills and used them effectively. Lucy was coming along. She was following Julie's lead with excitement and was also trying her best. They all showed an interest in the books and were confident enough to go through and, in Julie's case, read some of the unfamiliar books.

The three children were all at different developmental levels, which is common in a kindergarten classroom. After having used the software for three weeks, the children were showing confidence and excitement when it came to reading. Their self-esteem had continued to grow along with their reading skills. This observation also allowed me to observe their reading levels more closely. I observed them using different skills and growing within their current reading levels.

Observation 4

Observation 4 took place on October 25, 2000. At this point in the curriculum we were working on the book Giant. This book was about a giant that went to school and had difficulty going up stairs, sitting at his desk and a variety of other everyday things children do at school. We had read it the past Friday and a few times during the week. Since many of the children said that they had seen it on the computer, I decided to make the book the main focus of the project for this observation. Again there were three children and we were in the classroom at one of the round tables. I had been choosing the round tables so the children were seated closer together. Julie and Lucy sat next to each other and this did not bother Greg in any way.

We started by reading the book, Giant, aloud together. They were all either using reading readiness skills or reading. All three were excited when I said that we were going to add to the story and finish it in different ways. Julie started by saying "Maybe he turned out to be little and did everything!" This got the ball rolling for the others, especially Lucy. As usual Lucy started out by saying that she was thinking. Greg said that he wanted to put the giant at the computers and that the giant was having difficulties while working on the computers. This seemed to be his main focus and what was on his mind because at the end of the observation, Greg was really interested at working on the computers himself.

Julie continued to use her creativity and said that she wanted to make the giant a girl. In the story the giant is a boy. It was at this point that Lucy started to join in and said that she was going to put her giant in the kitchen. At first this did not surprise me because we had a kitchen area in the classroom, however that changed when I saw what she was drawing on the pages in the book.

Lucy started to draw kitchen cabinet like you would find in a real home kitchen. This was imagination for sure. Lucy enjoyed doing drawings and using her creativity. That was really obvious here. She had started to use skills that would advance her to a higher reading-readiness level.

They were almost done with their pictures at this point. Lucy had asked Julie to help spell the word "Bye". Julie asked Lucy if it was so she could say "By Lucy?" They worked on sounding it out and were not completely sure, so Julie advised Lucy not to write it down in her book. Both were using their inventive spelling skills, which had not been formally modeled in the classroom at that time.

This observation brought out the creativity of the three children. It also gave me a clear picture of how well they understood the story, remembered what it was about, and how to add to it. They were all being funny, creative using their imaginations. Their self-esteem was noted through the revisions and growth was obvious in each of their reading levels.

This activity provided the opportunity to observe their imagination at work and their creativity. I was also able to see their understanding of how a story can be extended and altered. They seemed to have fun and were proud of their finished work. They were creating this positive environment and were helping each other along. The study was almost over at this point and the children were showing so much growth.

Observation 5

Introduction

My fifth and final observation took place on October 27, 2000, again in the classroom. Prior to having my three students gather at a table, I observed Lucy and Julie playing with a box of paper dolls. They were enjoying themselves and I decided to see what they were saying and how they were using their creativity. So I asked Greg to join them. He did so with out any hesitation. I put the box of dolls in front of the children and asked them to pick out of the box what they wanted to use to create a story. I guided the children with the choice of a doll to some extent and they were on their own as far as the pieces went.

Greg chose a boy doll and picked out all the paper doll pieces that went with a tomato farmer. Julie picked a doll with black hair and chose some pieces. Lastly, Lucy picked a doll with blonde hair and put some pieces with it. I then gave them a few minutes to put a story together. I added that if they would like to use some of the software book ideas that they could do so.

Greg was excited and said, "I have a boy doll!" This started the conversation and Lucy said "I have a blonde haired doll!" and Julie said, "I have a black haired doll!" They were excited throughout. Julie started to sing, while Lucy talked out loud about her doll. Greg at this time was busy thinking of a story that he could tell us about his doll. He had gone through the box and pulled out every tomato he could find.

The stories began with Greg's ideas. "A tomato man. I plant tomatoes. I have a tomato sign out today. I'm carrying a box of tomatoes!" He continued to talk about tomatoes. At one

point he said that his story was done, but then decided to continue and add to the story. Greg used a lot of creative words and ideas. He used the paper doll pieces to guide him and give him ideas. I could tell that he took his time and thought through what it was that he was going to say before saying it.

Julie went next. She started off by saying "I am pretending that she is a big giant in the giant story book. She is holding flowers because she got back from the flower store. She is going home to show her mom that she got flowers on her birthday" Julie was very creative and sweet when telling her story. It sounded like something that may have actually happened in her life. She added to the story by tying in the idea of a giant girl from the book Giant. When she finished telling her story, she added that the doll she was holding was the mom.

Greg was excited to hear the different stories and said " O.K. Lucy. I want Lucy to go next!" Lucy has been busy humming and singing along with the tape that is on in the classroom for rest time. Her story was short, but creative. She said, "She came back from vacation and she saw her cat. And her cat's name is violet. And she played with her toys and she had a drink and ate some…" At this point Julie leans over and whispers to Lucy while pointing to the paper doll, "Violet". Lucy continues by saying "cookies and then went outside to play. And then she started to play with her friend Melissa. They then started to play at Melissa's house". This was interesting because she has a friend named Melissa. Thereby adding a personal friend to the story. The whole way through the story Greg and Julie were watching and listening to her. Lucy was singing between some ideas and was taking care in putting her doll together. When she completed her story, I asked the children to draw a picture of the doll that they had in their story.

Summary

Today's activity encouraged the children to use their imaginations. They picked the same sex dolls as themselves and dressed them accordingly. Greg dressed his doll in traditional boy

clothing-overalls and boots. Lucy and Julies' dolls were dressed in traditional girl clothing, pretty hats shirts and dresses. All of the children enjoyed the project.

Summary of Observations

Throughout the five different activities, I observed the children at three different pre-reading levels. Each displayed examples of the different stages of pre-reading at different times. I chose to break down the codes that showed pre-reading levels into three separate levels starting with the basic skills and moving up to the skills that are discernible as the child begins actual reading.

Pre-Reading Levels

Pre-reading level one includes skills such as copying from others, drawing and active listening. Also included in this level are the times when the child was unsure of letters and their sounds. These skills are learned at a young age and are to be built on through development and learning.

The level two pre-reading skills is a larger group. Some of the skills that fell into that particular category are letter recognition, making a connection, relating and guiding. These skills are advanced compared to level one skills. This is the point at which some kindergarten children have arrived when they enter kindergarten in September.

Lastly, the third level of pre-reading skills are letter sound recognition, using sounding out skills, word and sound recognition and suggestions. These are just a few of the skills that make up the third group.

Lucy is the type of student that has a lot of information being processed in her mind, but will take the back seat when it comes time to express it. She is a creative child that enjoys drawing with detail. Lucy stays focused and completes the given task with care and effort. Lucy's

pre-reading level skills are mostly at the second level and are advancing to the third level. She has many of the third level skills and is just learning to use and demonstrate them.

Lucy however, is still demonstrating some of the skills that beginning, pre-readers display. Actions such as "talking through actions before doing them" and avoidance until the drawing piece was assigned are some examples. This was seen in observation one mostly. She was not staying focused on the questions and would find something else to hold her attention.

Greg's pre-reading skills were mainly at level two. I observed him using pictures to guide him through a story, sounding out words to write using inventive spelling, showing great excitement about different stories and also creating a story from beginning to end. By the end of the five observations, Greg was moving quickly through level three and was at the point where he was using the skills he already developed to read at the basic level. He demonstrated a strong interest in reading throughout all of the observations beginning with the initial activity. Many of his responses were given with energy and enthusiasm. At first I saw his dominant role as an interference with the study. I wanted to hear more from Lucy and this was not happening, so I added Julie. I chose Julie because she is a friendly child who is also a strong leader. My hopes were that Lucy would see this and go along with Julie and maybe even interact more with the group activities.

Julie came into kindergarten reading. She enjoys being challenged and in doing so developed her skills a higher level. She has a love for reading and books. The other children in the room see this and the example she sets is a positive one for everybody.

Julie found enjoyment in the different activities. She read without hesitation books that we had never looked at before. She used her imagination and creativity when drawing pictures and created new endings to a story as presented by the software. Julie also used story ideas when I observed her creating a story about a paper doll. Overall, Julie is at the third pre-reading level and has developed enough reading skills to read different books.

The observations were filled with oral language development skills and examples. The children were comfortable looking through, and even reading, some of the books that we had not presently read in class. They used their creativity and imagination in many ways.

The study created a group that worked well with one another. They came into the group not knowing each other but grew closer as time went on. Self-esteem was developed along with several reading skills. When Julie was added, Lucy took to her right away. This did not affect the group or Greg's interaction in a negative way. By the end of the study they were working with each other as if the study had begun with all three. Today they are kindergarten students who have taken on other children to guide and to serve as role models in the classroom. They have taken what they have learned and are now growing through the different skills.

Discussion

My discussion is based on the field notes collected through my study. These notes contained a total of 311 jottings. After repeated analysis of these jottings I found I had 101 codes with 708 entries. The first part of this chapter is based on my analysis of these tables. Throughout the study, I made a total of six observations with two occurring in one day. After analyzing all of this information, I then began to table the codes according to what was occurring in the data.

TABLE 1 presents the raw data and indicates the important codes to focus on in my analysis. The table gives a clearer picture as to where the children's different developmental levels were when the study began and the changes that had taken place when it ended with OBSERVATION 5. By reflecting on the table, I was able to see exactly at what observations a code appeared for the first time or last. Also, I was able to determine relationships among the codes. The findings from TABLE 1 show growth and developmental stages. Analysis of this table yields the following questions. What were the main codes that guided the study? What were the codes telling me about the children's experience with the software? Lastly, how did the children's

participation in the study differ from one another? These questions will be answered in the following paragraphs. (TABLE 1, See APPENDIX A.)

OBSERVATION 1 occurred on October 6, 2000 in my classroom. I asked the two children, randomly selected for the study, Lucy and Greg, a series of questions about a field trip we had taken to the apple orchard the previous day. This was the first time I had pulled the two children into a small group for the study. Looking through the codes taken that day, I noted that there were three specific codes with significant meaning for the study: "interest", "reflection" and "excitement".

OBSERVATION 1

The code "interest" was used to describe times when the children showed an interest in the topic of conversation, which was focused on the apple orchard field trip. TABLE 1 showed a total of 41 instances of this code.

In addition to "interest" the codes "thinking" and "reflection" together also reflected multiple occurrences. They were placed together because they both indicate cognitive processes.

Combined, "interest" and "reflection" gave evidence of the children's thinking abilities and use of prior knowledge. The two codes were also connected with the code "excitement". This code was observed fourteen times on October 6th during OBSERVATION 1.

Have noted these codes, "interest", "reflection" and "excitement", I realize that the children were interested in the activity provided and that their thinking skills were used when responding. Excitement about the trip, as demonstrated when they recalled the experience, gives strong evidence that the entire day was a relaxed experience for them.

OBSERVATION 2A

The second observation took place in a second grade classroom. The children were paired up with second grade partners and were asked to complete an acrostic for the word October. Prior to letting them get started, the second grade teacher and I modeled a few examples of how an

acrostic is done. During this time, I was pleasantly surprised at how well my kindergarten children responded with their ideas. I was eager to see my research subjects, Lucy and Greg at work.

New codes emerged in OBSERVATION 2 as the children used "sound recognition" and "letter recognition" to use a letter in a word correctly. To accomplish this they demonstrated letter-sound recognition skills and the end results were evident on the activity sheet. When Lucy said, "For "b" we did bats fly at night", I knew that she was using the skill of letter and sound recognition. If the letter of the beginning word had to be an o, then the use of the word October demonstrated they had developed their letter and sound recognition skills sufficiently to find a correct answer. Both children had the word October on their acrostics for the letter O. This skill was evident in many ways during that observation.

OBSERVATION 2 drew my attention to the presence of reading readiness skills. At that point I realized that I should note reading readiness skills in future observations. Both children were using their skills to complete their acrostic. It gave new skills to look for in the upcoming observations. The children were using thinking skills and were involved in the activities.

After analyzing all of the information presented above, it became clear to me that the addition of a third child to the group would have a positive effect on the already existing group of two.

OBSERVATION 2B

With Julie's addition to the group new codes emerged and began to dominate the study. Lucy became more involved in the group. During OBSERVATION 2B Lucy sat next to Julie and right away took her on as a partner asking her, "Do you know what this says?", "What are you drawing?" The activity given at this point, was for Lucy and Greg to explain to Julie what they had written on their acrostic and why.

The code "reflection" appeared many times throughout OBSERVATION 2B. Each child was observed reflecting on his or her morning work. "Ummm, my partner writed bat", Greg said when explaining to Julie what was under the b letter on his acrostic. Lucy then said, "Bats fly at night". Each time one of the children looked over their acrostic and shared with one another their responses, the code "reflection" was noted. The children were again thinking back and using prior knowledge. "Excitement" was also noted with a few of the responses. These two codes reinforced my evaluation of their thinking process and the developmental stage of each of the children.

In addition to the two codes mentioned above, another code "thinking" appeared several time. This code was used when the children directly responded by saying, "I am thinking", or when they had a thoughtful expression while looking around and saying "Umm". It described when they expressed a new idea or thought.

The three codes, "reflection", "thinking" and "excitement" combined showed that adding a new child brought out new strengths of each. The codes gave a clear picture about the stages of thinking of each child and that each child was using the skill to the best of his or her ability. The responses demonstrated their reflection and the manner of their responses, their excitement. But the reflection that started this cycle was made possible through the process of thinking. When they thought back about the activity and realized what they had accomplished, excitement reigned. The codes complemented one another and indicated a positive environment.

OBSERVATION 3

Realizing that different skills were emerging through the observations, OBSERVATION 3 was of great interest to me. The observation occurred on Friday, October 20, 2000. It was the second observation made after the third child was added to the study. This observation was focused on reading readiness skills.

The children sat together at a table in the classroom with a pile of books placed in the middle of the table. All of the books were from the software, Breakthrough to Literacy. At this point in the study the children had been working on the software for three weeks, three hours and

forty-five minutes exactly. I gave them the directions to pick from the pile any books and "read" them. Up to this point, I had not observed their skills when placed in front of books. They were excited when I set the books down and immediately began choosing books from the pile to "read".

The code "interest" was jotted twice during this observation. At one point, I noted Greg looking over to see what book Julie and Lucy were "reading". He had chosen his own pile of books to use and was interested in seeing what the girls had chosen. Lucy chose a pile and discussed with Julie about the order she placed them in at her seat. She placed her favorite books on top. She wanted Julie to do the same thing with her books, but Julie was more interested in reading the books. The childr . were all engaged in the given activity. There were new codes surfacing now and the interaction among the children had become stronger.

The code labeled "computer book recognition" was highlighted several times for each child. Lucy and Greg seemed, at first, to go for the books that we had read as a class, the books they were confident in and comfortable "reading". However, they were also able to recognize books from the computer that we had not yet taken in class. This code was strongly related to the next code, "reading readiness".

The pile of books contained both familiar and unfamiliar books. The only reason a book would be considered unfamiliar was if as a class had not yet read it. The familiar books were books that we had read together prior to this observation. When the code "computer book recognition" was used, it meant that the child either recognized the book from class work or from time spent on the computer. The exciting part about this code was that the majority of the books recognized were from the computer time and not class time. In order for the three children to get through one of the unfamiliar books, they would need to use their reading-readiness skills. This was where the "reading-readiness" code came into place.

"Reading readiness" is a process, which children develop when learning skills necessary for reading. This code was noted throughout OBSERVATION 3 with each of the children. Greg was

noted as using the pictures to guide him through a new book. "Sparkles", he said, when pointing to a picture of gold pieces in the book Ship- a-Sailing. Greg knew that the word sparkles was on the page and the picture was his reinforcement. Lucy was also noted using this skill. "The flowers are yellow", Lucy said when pointing to a picture in a book that we had not yet read.

During this observation I recognized three different levels of reading-readiness skills and some reading skills. All three tried their best and still had fun doing the activity. Their interest was not only in the books, but in improving their reading skills as much as possible.

OBSERVATION 4

In the next observation, their skills were taken even further. Not only did they need their reading-readiness skills, but also their creative skills. The observation took place in the classroom. The three children, were sitting at a table and each had a book Giant in front of them. This was a book that we had been working during the week of October 21, 2000. At this point we had read the book several times, they had listened to it on the computer, and we had discussed it as a class and had picked out the main character, the setting of the story, and talked about what was happening in the story.

I wanted to challenge the children's thinking skills even further. I created an activity for them that would do just that. I asked them to "read" through the story, think about it and then using the six blank pages at the end of the paper book to create a new ending. There were few limitations placed on the children. I wanted to analyze their thinking skills and creativity in action.

In OBSERVATION 4 the code "questioning" was used to describe the thinking process of the children when they were working in the group. "Questioning" emerged as a code when the children were asked to complete an ending to a story they had worked on in class that week. They were often noted "questioning" each other on their individual work. " How do you spell giant?", "Where are the steps" and "What comes after "g" in giant?" were just a few of the questions

noted in this observation. Questioning is another thinking process that develops with age. It presupposes curiosity and interest on the part of the children, all of which were noted throughout the observation. As stated by Holbrook, peer questioning, done in an informal setting, allows for feedback to occur on the spot and in turn this adds to the discussion and development of oral language (1983). This type of interaction was observed at this time in the study. In addition the codes, "imagination" and "finishing a story" were also observed numerous times.

"Imagination" is yet another thinking process that is a learned skill. Children develop this skill through experience and creativity. It is connected to thinking in divergent ways. One way in particular is through an activity that calls for thinking in a creative way. The activity during this observation required imagination. This activity encouraged the children to demonstrate their imagination through both drawings and words.

Lucy placed the main character of the story, a giant, in a kitchen setting. Greg placed the character at the computers and Julie chose a school as her setting. Julie also changed her character from a boy, as in the original story, to a girl. The children illustrated their pages with pictures that reflected their ideas. The pictures were clear and full of color. Some even showed emotions from the character.

Lastly, the code, "finishing a story", required that the children used their "imagination" skills. They all used different ideas and placed the main character in a variety of settings.

As the codes "questioning", "imagination" and "finishing a story" reflect thinking skills that help to develop reading readiness skills. "Questioning", allowed me to see their interest in the activity and each other. All three codes reflected thinking in different ways. At this point in the study, I was able to look back and see the patterns occurring in the codes.

Thinking skills were being used often and were bringing other skills to surface. The children were also showing a strong interest in the activities and in the idea of reading. By participating in the activities and using the skills they already had, they were developing the skills necessary for reading. This performance continued into the next observation.

OBSERVATION 5

This activity provided additional skills that required the skill of thinking. This was the last observation of the study. It took place on October 27, 2000 in the classroom. The activity had fewer limits placed on it than previous activities. The children were shown a box of paper dolls. I asked them to dress their dolls and to think of a story about their doll. I encouraged them to use any words or ideas from the computer whenever appropriate.

While observing the children as they dressed their dolls, the code "excitement" was observed seven times. This frequent occurrence of the code reflected a strong interest in the activity and a desire to engage in it. "I have a boy doll", said Greg, while Lucy was saying, "I have a blonde haired doll". This was the same colored hair that she had. Julie then chimed in by saying, "I have a black haired doll". From the start the children were engaged in the activity. It was also the first time that I had brought the paper dolls into the classroom so it was also brand new for them.

The activity was focused totally around this box of paper dolls. The code "excitement" was tied into another code, "imagination". This code did not appear as frequently, however, it was noted because of the interest in the activity.

The code "computer word recognition" was also observed during the stories. This code was used to indicate that the children were thinking about the computer program and reflecting on the words they had heard in the different stories. Among the words were giant, pink and flowers. Julie even related her character to a character found in one of the books. This storytelling in this observation encouraged language development.

All the codes observed, "excitement", "imagination" and "computer word recognition", were pointing in the direction of thinking skills and different levels of the thinking process. The activities involved in the study related to reading and reading readiness skills. When integrated the two areas of skills support each other. TABLE 1 demonstrates who was using thinking skills

and in what ways. The tabulation of these codes assess their reading levels and how they were developing through the use of their thinking skills. The table also showed the positive outcome of adding a third child to the study as well as indicating the direction the study was taking. The dominant emerging skills were thinking and reading readiness.

TOTALS OF TABLE 1

The totals in TABLE 1 clearly give the picture that the thinking process was occurring within each of the children. The codes "excitement", "interest" and "reflection" permeate the field notes throughout the table. Each code represents a different type of thinking skill.

"Excitement", which totaled 74 occurrences through the study, demonstrates that the task at hand was of tremendous interest to the children. It was fairly consistent through the entire study. Through their actions and facial expressions, they showed being part of the activity was "excitement" to them. Seeing this as the observer, I know that their best efforts would be used when working through the activity.

"Interest" also displayed 49 times as indicated in the table. The activities were appealing and kept the children involved, thereby supporting the development of thinking skills. Each child wanted to show that he or she was involved and proud to be part of the group. Their interest in the topic brought out and developed various other skills related to thinking and reading readiness.

The last dominating skill was "reflection". Again this is a thinking skill. "Reflection" allowed the children to recall the apple orchard field trip, the acrostic activity done with the second grad, and more importantly, their work done on the computer program, Breakthrough to Literacy. Throughout the five observations, words, ideas and whole stories from the computer were reflected on and used in creative ways. These skills involved thinking and all connect to interest in a strong way. When there was interest during the given activity, thinking followed. Verbal exchanges among the children about the activity itself were noted. What were the

outcomes from TABLE 1? How did they affect the changes made in TABLE 2? This was what I had to decide before any changes occurred.

Table 2.0 Formation of Categories

I studied TABLE ONE and observed that there seemed to be a connection between thinking skills and reading readiness skills. To bring clarity to this issue, I decided to divide the codes into pre-reading skills and various other categories observed among the codes. Categories are formed to bring codes with similar meaning under one umbrella. The results of this analysis can be found in TABLE 2.0. (See APPENDIX B.) The analysis resulted in the definition of thirteen categories, six of which are pre-reading skills listed as follows: pre-reading skills, non-reading readiness skills, letter recognition/upper case, pictures to guide and creativity. The remaining seven categories are named as follows: oral language, thinking, feeling positive, feeling negative, unrelated occurrences, action and other. Each of these categories is defined below.

Pre-Reading Skills

Pre-reading skills are those that develop into reading skill with practice. When a child possess these, they use them to "read" books by looking at pictures and often observe others who are reading and try to do what it is they see the other child or person doing. These skills are the ones most evident before actual reading gets set into motion.

This category contains two codes with a total of twelve occurrences. The category pre-reading skills included "guiding" and "observing".

"Observing" is a more dominant skill that needs to be exercised before reading occurs. A child who has the opportunity to observe another child or adult reading, then gets a clearer picture as to how some of the skills are used when reading. This code was observed in OBSERVATION 2B when Lucy asked Julie, "What are you drawing"? There was even a point when Lucy stopped doing her drawing completely and concentrated on what Julie was doing. This tied into the code

"guiding". When a child is guided through beginning skill levels, he or she are then more likely to develop them.

Non-Reading-Readiness Skills

Non-Reading readiness skills are those that are not focused on reading and will not develop into reading skills. Children may enter kindergarten at this level and will, with time start to develop the basic pre-reading skills. In the classroom when the study took place, an alphabet review of letters and their sounds took place at the beginning of the year. The non-reading readiness skills observed were "unsure of letters" and "unsure of words". These two codes appear in TABLE 2.0 in OBSERVATION 2B.They showed that there was room for development.

Letter-Recognition/Upper Case

One of the first skills reviewed in kindergarten was recognition of uppercase letters. This is learned before lowercase letters. It is a recognition skill that is necessary for the children to possess so they can then move onto letter sound recognition. Both are extremely important for beginning reading development.

A child must, for the most part be able to recognize letters beginning with upper case, in order to develop pre-reading skills. It is part of the review that takes place in the kindergarten at the beginning of the year. The three codes included in this group were "copying from others", "letter recognition" and "copying". All three skills develop into reading skills with practice and guidance. Again they were noted as starting in OBSERVATION 2B, which is also when Julie was added to the group.

Pictures to Guide

When children use pictures to guide them through a piece of literature, they have started to use their reading skills. Looking at pictures when reading helps the child to get a better recognition of what the words are on the page.

"Pictures to guide", was a small category. It only included one code with eight occurrences. Even though it has only one code, it was still extremely important. When a child uses pictures as a guide through literature, he or she is using a powerful reading readiness skill.

Inventive Spelling

Inventive spelling is a skill that is used when a child has mastered all of the letter sounds and has letter recognition. When children first start to write words and then use the words to form complete sentences, they develop the skill of inventive spelling. This skill is important to children who are ready to read. It allows them to "spell" words and to use words that they may have seen in a book. Additional skills in this category are discussed in the following paragraph.

Inventive spelling skills are a bit more advanced then the previous ones created. It included codes such as "letter/sound recognition", "word and sound recognition", "using sounding out skills", "relating letter and sound" and "reading readiness". This is the level of development right before reading occurs. All three children at one time or another displayed these skills.

Reading Readiness Skill

The acquisition of this skill requires the mastery of the pre-reading skills discussed above. It is a combination of many pre-reading skills. It is a group of skills that combined, allow a child to start to read on his or her own.

Because Julie was already using reading skills that allowed her to read, this code mainly reflected Lucy and Greg's actions and skills. Notations during OBSERVATION 3, on both children, demonstrated this skill. When Greg said, "And another guy started to go up", showed that he was using the pictures to guide him and then creating a sentence about the page of the book. This code covered a variety of skills.

Creativity was a large category. A few of the codes included in it were "retelling of a story", "change in roll", "imagination", "finishing a story" and "constructing meaning" to list a few. This was where I began to see more of their thinking skills come out. Some of the skills were more dominant than others such as "imagination" and "finishing a story".

"Retelling of a story" was noted during OBSERVATION 2B. Greg was reflecting on a book that he had listened to on the computer. "I saw that lamb and pig book. One said baa baa went the sheep". The three codes were all noted during OBSERVATION 4 when the children were creating a new ending to the story Giant: "Change in roll", "imagination" and "finishing a story" were all noted during

Oral Language Development

The four codes, which were "computer color word recognition", "computer word recognition", "animal sound recognition" and "computer book recognition", required a higher level of thinking than the use of learned skills such as in inventive spelling. Between the category of creativity and thinking itself was oral language development. I noted it almost as frequently as creativity.

Oral language development included codes that were directly related to the computer program. The computer program, as stated earlier in the paper, had a main focus of oral language development. Codes that were directly linked to the computer displayed skills also directly related to oral language development. Recognition of a word or book that were part of the computer activities also indicated thinking skills. This came about by their reflection on what they had achieved at an earlier time.

"Computer word recognition" is one of the more important codes under this category. During OBSERVATION 2B it totaled 15. "Can you say it was a penny in a tree?" and "I hearded My Friends at School", are both quotes that illustrated that the children remembered different words from the computer program. Another code found under this group was "computer book recognition". This code represented the fact that when the children were working on the

computer, they were not only listening to the words in the story, but they were also now able to recognize the different titles of the books.

Thinking

Included in the category labeled "thinking" were the types of skills that were both interactive and non-interactive. Some were obvious, while others were recognized as outcomes or responses.

Throughout all five observations, at one point or another, a code labeled under the thinking category was observed. This category was a strong one and one that was noted as a focus for the next table. The categories continued to develop and others emerged through the analysis.

Feelings-Positive

Feelings were observed and placed into two specific categories, positive and negative. The positive feelings placed in this category included, "excitement" and "proud". These two codes were observed the most frequently throughout the study.

Feelings-Negative

"Sensitive", "intense", "upset" and "disagreement" are just a few of the codes I put into this category. They all reflected situations that involved Greg. There were only a few codes noted, but I chose to keep them because they give a better understanding of Greg.

Unrelated Occurrences

Unrelated occurrences focused on the codes that were noted throughout the observations when an off-task topic was brought up and a conversation was then started because of it. They were listed as "unrelated comment" and "off task interest".

Action

Action was a category that I placed in literal, moving actions. The highest number of actions occurred in OBSERVATION 1. An example was when Lucy was taking a step back in the activity and not responding and when Greg was taking on a more dominant role in the group. In order to "avoid" answering questions, Lucy started to touch her lips, play with her hair and play with the paper in front of her. This disappeared totally after observation one.

Other

The last category located on TABLE 2.0 is labeled "other". It was created for codes that I needed to reevaluate and analyze in depth. At the time they were not specific to any existing category. Some of the codes placed in this category were "responding", "persistent", "taking control" and "interest" just to list a few. The entire category scored high, but also contained a larger number of codes. I knew that through continued analysis categorizes would change and would form and others would grow. The largest code in this category was interest.

The code "interest" was used to indicate that the children were involved in learning and enjoyed the activities they were doing. It was noted the highest number of times in OBSERVATION 1.

TABLE 2.0 created a clearer picture of the different levels of reading. It also categorized different skills that were going on within each activity. From thinking to feelings I saw each as important as the other and a picture was forming. The picture involved children who were eager to learn yet hesitant at times and working through the activities at the own pace.

TABLE 2.1

Analysis of TABLE 2.0 suggested that a study of reading levels would help clarify what the data were saying. It called for further analysis of the categories as found in TABLE 2.0. This led to the creation of TABLE 2.1 with a main focus on reading levels and the individual

personalities of each child. Some of the codes were moved into new categories and others were combined. The changes occurred after I reviewed the codes and their existing categories. (TABLE 2.1, See APPENDIX C.)

As stated above two primary streams of data were discovered in the analysis of TABLE 2.0. There were reading levels and personality types of the children participating in the study. I began the revision of the table by extracting categories and codes related to personality traits and created a category for each child.

TABLE 2.2 was developed after I reviewed the existing codes and started to search deeper into the different reading levels present within the research. From this analysis I created three specific levels. The three categories were LEVEL 1, 2 AND 3 pre-reading skills. In each level I placed skills that develop simultaneously starting with the lowest skills and working right up through the skill of reading itself. Some of the groups that were already formed in the previous table are placed within the three pre-reading level groups noted above. Additional codes were pulled from various other groups found in the table. (TABLE 2.2, See APPENDIX D.)

Level 1 pre-reading skills group included codes from the non-reading readiness skills group such as "unsure of letters" and "unsure of words". Other codes that fit into this group were "copying from others", "drawing" and "active listening". Each of these codes is a skill that is observed in children who are at the beginning stages of reading. All the level 1 skills come to a total of 14 and were found after OBSERVATIONS 1 AND 2. The presence of these codes indicated where the children's reading skills were on the date of each observation.

Level 2 pre-reading skills had a total of 59 occurrences. This was a significant change from level one. Some of the codes placed within this group were: "guiding", relating a picture to a word", finishing a story" and "using the imagination", to name a few.

Lastly, the code "using the imagination" was observed during OBSERVATIONS 4 AND 5. The children used their imaginations when creating endings to the story, Giant and also in their

paper doll stories. This code was noted most within the level 2 pre-reading skills. Having created the second level of pre-reading codes, I then went on to create a group with third level skills.

Within the group labeled level 3 pre-reading skills, I placed the codes "computer word recognition", "sound recognition" and "computer book recognition" to name a few. The code "computer word recognition" was an important code. It represents all of the computer words that the children have worked with on the computer and are now able to recognize even when they are not viewing them on the computer.

The code, "sound recognition" definitely had to be placed within the level three group. It is a pre-reading skill that is usually observed immediately before a child starts to read. It is a higher-level skill. It was noted in OBSERVATION 2A when the two children, Lucy and Greg, are working with the second grade partners on the acrostics. Lucy said, "We did B for bats". Greg went on to say "October, yeah on the first letter".

After completing the three levels, I looked over the codes again and placed a few more codes into a new category named active reading. Active reading developed from: "reading" and "reading a new book". It occurred 14 times. Both of these phenomena occurred frequently in OBSERVATION 3.

Overall TABLE 2.2 gives a clear picture about the different skills the children possessed and where they were in the development of each skill. With further analysis, I realized that I needed to split TABLE 2.2 into two separate tables.

TABLE 3.0 was made up of the emerging categories in the study. All the codes were combined from TABLE 2.21, except "learning styles" and "interest". This table focused on the three "pre-reading skill levels". It also showed the results for the codes: "thinking/reflective", "interactive", "feelings-positive and negative" and "participation". The first three codes on the table were "level 1 pre-reading skills", level 2 pre-reading skills" and level 3 pre-reading skills".

The totals all fell into place according to the levels. Level 1 had the total of 14 occurances. Level 2, a total of 59 and level 3, of 110. Throughout the observations the number of

occurrences increased. This was seen especially with the level three pre-reading skills. This information gave a clear indication as to the level and pace of how children's reading skills were developing.

The code "reflective/thinking" had a total of 142 occurrences. It was a consistent code throughout all five observations. This peaks at OBSERVATION 2B. The presence of this code in the table allowed me to see how successful each child was using thinking skills while working. Each activity definitely played a part in the code, however each child put forth effort and used reflective thinking skills to the best of his or her ability.

TABLE 3.0 Variable Totals	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Level 1 Pre-Reading Skills			3	4	4	3	**14**
Level 2 Pre-Reading Skills		4	8	7	32	5	**59**
Level 3 Pre-Reading Skills		9	35	42	12	12	**110**
Thinking/Reflection	41	9	48	25	11	8	**142**
Interactive	26		3		13	10	**52**
Feelings-Positive	16	14	27	13	11	7	**88**
Feelings-Negative	7	5	3				**15**
Participation		5			4	2	**11**
Interest	41	2		2	3	1	**49**

The main focus of the activities that brought out this code was the reflection on what they had done on the computer with words, books, sounds and basic ideas of the individual stories. Most of the occurrences were noted and recorded when computer experiences were observed. My next step in the analysis was to introduce a new category into TABLE 3.0, "interactive".

This category was created when I took the codes "explaining to self", "explaining", talking out actions before doing them", describing", "responding" and "questioning" before responding" and created one large code titled "interactive". These codes appeared in the study a total of 52 times. They were noted at different times in all

observations except OBSERVATIONS 2A AND 3. The highest code within the group was "talking out actions before them".

Another important code in the group was "explaining". This code was noted 15 times in OBSERVATION 1 alone. "Now I just have to make one more picture here", Greg said while working. Lucy then went on to talking with me and said, "Was the bus light yellow or dark yellow"? It was examples such as these codes that the main code "interactive" was created.

Feelings also played a large part in the study. There were positive and negative feelings noted throughout the study. The code, "feelings-positive", was noted here for each of the three children during the entire study. The totals came to 88 by the end of the study. Both the frequency and the spread of the codes throughout the data signaled to the researcher that the children were building their self-confidence in reading skills. They all interacted positively and enjoyed working on an activity together. Overall, the study was a positive experience for all three children in several ways.

Negative feelings were also observed during the study and were coded as 'feelings-negative". The interesting part about this code is that the highest number recorded throughout the study was during OBSERVATION 1.The number was 7. By OBSERVATION 2B the number was down to 3 and then was never noted again during the study. The grand total for this code was 15 and the important characteristics was that it eventually disappeared. When referring to observation one, many negative feelings occurred when either Greg or Lucy was avoiding a question, feeling sensitive or even unsure about a response. The important outcome is that this code ended after OBSERVATION 2B.

The last category found on TABLE 3.0 was "participation". This category was made up of a variety of other codes. The codes that made it up were "sharing", "guiding", manners" and "helping". Each category came from TABLE 2.2 and was then transformed into one large one in TABLE 3.0.

All of the categories found on TABLE 3.0 allowed reading levels to be analyzed and the interaction occurring in the environment. It showed that their reading levels were changing as the study progressed and how their feelings towards the activities and learning to read were positive. Lastly, the three children were using thinking skills and showed a strong interest in what was being presented to them during the observations. TABLE 3.0 was then analyzed and TABLE 3.1 emerged.

TABLE 3.0 was then reduced into TABLE 3.1 below. The category "feelings-negative", which totaled 15, was removed. The interesting notation made from this category was the fact that it was only observed in the first three observations. It then disappeared as the children became more comfortable with each other and their confidence grew. Taking this category out clarified the remaining variables for consideration. The next change in the table was effected when I decided to divide TABLE 3.1 into two tables, TABLE 3.11 and TABLE 3.12. Each had significant meaning for the

TABLE 3.1 Merging of Variables	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Level 1 Pre-Reading Skills			3	4	4	3	**14**
Level 2Pre-Reading Skills		4	8	7	32	5	**59**
Level 3 Pre-Reading Skills		9	35	42	12	12	**110**
Thinking/Reflective	41	9	48	25	11	8	**142**
Interactive/Participation	26	5	3		17	12	**63**
Positive Environment	16	14	27	13	11	7	**88**

TABLE 3.11 Pre-Reading Skills	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Level 1 Pre-Reading Skills			3	4	4	3	**14**
Level 2 Pre-Reading Skills		4	8	7	32	5	**59**
Level 3 Pre-Reading Skills		9	35	42	12	12	**110**

study. TABLE 3.11 focused on the pre-reading skill levels while TABLE 3.12 includes these categories related to the learning environment.

An important to note on TABLE 3.11 is recorded for OBSERVATION 4 at level 2 where the total was 32. It was at this point in the study that the children's reading levels really began to change.

The activity given to the children was to add an ending to a story read as a whole class. The children sounded out words, used their imaginations and really stretched their pre-reading skills to the best of their abilities. This activity demonstrated for me that their reading readiness skills were developing and were doing so rapidly.

There is another important total on the table that indicates want to focus on. The code falls under level 3 pre-reading skills. During OBSERVATION 3, the total of level 3 code occurrences was 42. This was a high for that particular category. It demonstrated growth in their reading skills. The activity assigned during this observation was an extremely hard one for that early in the school year. I placed a pile of books on the table and the children had to chose books and "read" them to the best of their ability. It was also at this point that I was able to get a clearer understanding as to where each child was in the three pre-reading skills. Lucy really observed and listened to Julie during this observation. Greg also joined in the reading and observed Julie.

These two totals give a clear picture and back up the statement that learning was taking place and that each child was developing reading skills comparable to the child's current reading level. After taking out the reading levels, I then developed a table labeled 3.12. This table focused only on the constructive environment observed throughout the study.

TABLE 3.12 reflects a positive environment where children were learning, participating and developing in many ways. The three categories placed on this table were "thinking/reflective", interactive" and "feelings-positive". "Thinking/reflective" totaled 142 and was seen in every observation. "Reflective" totaled 79 and "puzzled" totaled 24 and "thinking" totaled 21. "Reflective" had the highest total appearing throughout the study.

"Reflective" scored high in OBSERVATION 1. During that session, Lucy and Greg were asked to reflect back on our field trip to the apple orchard we took the day before. "We got to see the machine that cleans the apples", "The apple orchard", "It was fun" and "He gave us

pumpkins" were just a few of the statements that showed reflections taking place. Both children were actively involved and had a lot to say about the trip. "Puzzled" also appeared within the list of codes.

"Puzzled" was noted 8 times during OBSERVATION 2B. This particular code was characteristic of Lucy during the observation. Often Lucy was noted as pulling at her lips, playing with her hair, making clicking noises from her mouth and putting her hands over

TABLE 3.12 Environment	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Thinking/Reflective	41	9	48	25	11	8	**142**
Interactive	26		3		13	10	**52**
Positive Environment	16	14	27	13	11	7	**88**

her eyes. It seemed to be that Lucy was puzzled about the given directions and also because she had still not become comfortable in the group. Julie was added at this point and little by little Lucy began to participate actively. The last code to discuss from this table was "thinking". TABLE 3.21 See above.

"Thinking" totaled 21 times and was seen mainly during OBSERVATION 2B. This code was of great interest to the study since the children's thinking was obvious in the activities that challenged them. An example of this was when Greg was looking up with his fingers to his lips trying to reflect back on what he had seen previously on the computer. Another example of this was when Julie put her hands to her mouth and closed her eyes while she tried to recall her time on the computer. Each child was noted as "thinking" immediately before giving a response.

As stated by Essex and Zang, research shows that there is a direct link between language and thinking skills. Oral language skills are vital for interacting by using dialogue and for

expressing ideas. Oral language development requires a team effort between teachers and children. The main goal is not only to get the children to speak, but to use it as a way of developing and learning through the use of it (1996).

TABLE 3.12 gave a clear picture that the children were involved in the activities, used higher-level learning skills and able to engaged actively in the given activities throughout the study. It showed a growth in each of the children and their thinking skills as the study proceeded. The environment was a positive one that fostered an increase in the children's self-esteem and encouraged them to work to the best of their ability. This would not be the last table. One more would follow. The last table was labeled TABLE 3.13. There are combinations in TABLE 3.13 that are important to the entire study. Here was what was done with the final three categories. (TABLE 3.13, SEE below.)

TABLE 3.13 combines the categories of TABLE 3.12 into two new categories: Constructivist Environment and Cognition. The categories "interactive/participation" and "feelings-positive" were combined. They were then placed under the larger heading constructivist environment. "Thinking/reflective" remain under the larger heading cognition. Both categories have totals that are almost equal with constructivist environment totaling 140 and cognition 142.

Constructivist environment was made up of the two categories "participation" and "feelings-positive". It showed that the children were enjoying the activities in the study and participated with each other and individually through out the study. One category that was really focued in on was "feelings-positive". This total reached 27 during OBSERVATION 3. This was also the observation that Julie joined the group and when the category "pre-reading level 3 reached its highest in the study. Moving onto the category "thinking/reflective" under the heading cognition, it was also during OBSERVATION 3 that the highest number of occurrences was noted.

By analysis of the two tables, the purpose can be said that the positive environment was one where the children were able to develop and strengthen their reading skills. The positive environment and the development of reading skills were working together. The children showed

great interest in the idea of reading and knew that the activities would help them. They thought through the activities, enjoyed doing so and in return developed through the different reading levels.

The environment encouraged this growth in many ways. Bringing Julie into the group gave the other two children a role model to observe while working. She was a pleasant child who helped them in many ways. She enjoyed doing so and at times did not even realize her impact on the other two children. On the other hand, Lucy and Greg were apt pupils who wanted to become independent readers. They saw a child who was at that point in reading and made it their conscious goal. Because the environment was so relaxed, mistakes never had attention brought to them. Success was achieved and praised not only by the researcher, but by the other children involved. Both the environment and the reading levels impacted each other in a positive way throughout the entire study. Realizing that each child's reading level varied, I decided to include my own analysis of the three children and the changes I observed throughout the study.

When looking at the children in order from most experienced reading level to least experienced they would have been placed in this order: Julie, Greg and then Lucy. Julie came into the study already reading and using her skills at a very high level. She chose books at different times that she had never seen before, guided others and even encouraged her classmates. She was known as "the girl who could read" by the entire class. However, until she was placed in the small study group, her high level of development was not recognized. Seeing her read encouraged the others. Julie was not afraid to read to the entire classroom.

Greg was sounding out words, using pictures to guide him and even chose new books to "read" when he came into the group. He also became more passive in the group and was not as dominant as he was during OBSERVATION 1. He too took notice of Julie skills and tried to develop his so he could read like Julie. By the end of the study, Greg had achieved his goal. By using his skills, Greg started to pick up challenging books and felt confident enough to do so. He

took the skills he came into kindergarten with, applied them to the software and mastered many skills. With this confidence he moved on to classroom books that were found on the computer and even added others. Greg moved from a level 2 pre-reader to a level 3 pre-reader. Lucy also moved along.

Lucy came into the study with a few skills in reading. She had a strong desire to read and this was obvious by her actions. At the start of the study she was dominated by Greg and did not interact much. There was a shyness about her that held her back in many ways. Adding Julie, the second girl and third child to the study, changed Lucy. She talked more, interacted more and, more importantly, displayed her reading skills. She had found a friend and someone who could do just what she had been hoping to learn to do since she came to kindergarten. Lucy began to observe Julie and mimic her skills. She tried to keep up with Julie and in doing so strengthened her skills. Lucy started to concentrate more on the task at hand and her work. By the end of the study, Lucy was sounding out words that she had never seen before and picking up new books that were not on the computer. Her self-esteem developed and impacted positively on her work.

The growth of the children in the study, confirms the work of Owens who states that there are few obvious principles that individuals grow at different rates and may also

TABLE 3.13 Student Motivate Environment	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Cognition							
Thinking/Reflective	41	9	48	25	11	8	**142**
Constructivist Enviroment							
Interactive /-Positive Environment	42	14	30	13	24	17	**140**

go in developmental phases. Lastly, he points out that developmental opportunity is needed and that milestones are attained at about the same age in children (1992).

Looking at the children in a different light changed the order. When thinking about the order of who was affected most by Julie's addition to the group, it went in the opposite order. The order changed to Lucy, Greg and then Julie. Lucy came out of her shy shell and was ready to learn. Greg was impacted and grew through the levels starting at two and going to three. Lastly, Julie

gained more confidence, polished her skills and taught others along the way without even knowing it was happening. Each had a special impact and all were successful in the end.

In conclusion, we can see that oral language is an important link in the process of children's learning and thinking development. Oral language development deserves serious attention from teachers. For many children, the development of oral language begins when they learn to speak. Through this process, they learn to organize their thoughts and to focus their ideas (Essex and Zang, 1996).

All of the tables created throughout the study show changes within each child and the environment. The children had a strong interest in learning to read and used the activities to develop their reading and thinking skills. When an activity was presented they worked through it with enthusiasm and did their best work. They observed each other and learned from each other's skills.

Weeks after the study, the children were interviewed individually. The questions differed from one child to another. Greg went first.

Greg started off by saying that he enjoyed working on the computer. He even wished that he had the same activities at home on his computer. He reads the take-me-home books to his mom and dad and his favorite book is Going to the Park with Granddaddy. He learned the words homerun, bat and play ball from the computer. Greg ended the interview by saying that he is having fun reading in KT and that the computer makes him feel happy. Julie was interviewed next.

Julie likes the computer because she gets to learn how to read more with all the new words. She uses the words when reading and writing and the activities in the section Explore Words are her favorite. Julie also said that it is really fun and that she likes to learn on the computer. Lastly, Julie said that she does not really have a favorite book on the computer. Then, I interviewed Lucy.

When asked what she liked most about working on the computer, Lucy responded by saying that reading books and doing the word activities on the computer was what she liked. A new word that she learned was drink and her favorite book is The Penny Tree. She likes it because it talks about what they are getting when they play with the penny tree. The interview ended with Lucy stating that she likes the word activities because she likes to learn more words so she can know what to write when she is writing. She can just write it down.

All three interviews expressed of positive experiences and feelings about the computer activities. Each child talked about books, words and what they liked on the computer. It has been about four months since the last observation and the children have been on the computer for over fifteen hours at this point. They also said that they use the new words when they are writing and recognize them when they are reading. They are growing every day and are showing development through the reading skill levels. Their self-esteem has been raised and computer time is fun and anticipated every day. The positive environment was created by the children and by their positive feelings towards learning to read. They each brought something into the group and used each others skills and support through their work.

Appendixes

Appendix A

Table 1 Raw Code Data	10/6 Obs. 1	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs 3	10/25 Obs 4	10/27 Obs. 5	Total
Proud Feeling	1			1			2
Avoiding the Question	5						5
Playing with Lips	2						2
Waking up	3	1	5				9
Feeling guilty	1						1
Excitement	14	11	20	12	10	7	74
Comfortable with her responses	1						1
Puzzled	6	2	8	5	3		24
Movement of Head to Hand	1						1
Sensitive	1						1
Pointing to teeth	1						1
Putting paper to lips	1						1
Playing with hair	1						1
Disbelief	1						1
Thinking out loud	8						8
Interest	41	2		2	3	1	69
Constructing meaning	1						1
Action	14						14
Reflection	35	3	25	7	5	4	79
Unrelated comment	2						2
Unsure	5						5
Questioning before responding	1						1
Change of interest	1				1		2
Explaining	15		1		1	4	21
Questioning			1				1
Talking out actions before doing them	1				5	6	12
Explaining to self	1						1
Off task interest	3				6	2	11
Observing			2	7			9
Copying from others			1				1
Organization				6			6
Word recognition			5				5
Animal sound recognition			1				1
Reading				11		1	12
Disagreement		1					1
Sharing		1					1
Book not yet read				2			2
Supporting			1				1
Self-esteem		1	1				2
Letter recognition			1				1
Avoiding			10	2	1		13
Proud		2	6		11		19
Intense		2					2
Sound recognition		8			3		11
Vocal		2					2
Letter recognition		10	7		3		13
Visualizing			1				1
Serious		1					1
Using sounding out skills			1				1
Questioning	4	2	10		17		33

Relating a picture				8			8
Relating a letter and sound			1				1
Reading readiness				15			15
Listening				4			4
Computer word recognition			15	3			18
Thinking		4	12		3	2	21
Thinking through actions			1		3		4
Making a correction		1				1	2
Relating		1	2		1		4
Action		1					1
Persistent		1					1
Deep thoughts		1					1
Challenged		1					1
Unrelated comment		2	3				5
Informing			1				1
Computer word recognition		1	1			7	9
Color word			1	3	2		6
Upset		1	3				4
Retelling of story			3				3
Giving in			1				1
Helping		1			1		2
Confidence		4					4
Creative		1					1
Singing				1	1	4	6
Computer book recognition			10	16	4	1	31
Unsure of letters			1				1
Unsure of words			1				1
Taking ownership			1				1
Taking control			2				2
Imagination					12	3	15
Finishing story					12		12
Humming					1	1	2
Letter sound recognition					3		3
Change in roll					1		1
Opinion					4	1	5
Sounding out					2		2
Correction					2		2
Guiding					1	2	3
Manners					2		2
Suggestion					1		1
Creating a story					3		3
Drawing					4		4
Identification					4		4
Putting friends into a story					1		1
Putting self into character					1		1
Describing					2		2
Responding					2		2
Copying					3		3
Looking for Support			2				2
Total							708

Appendix B

Table 2.0 First Grouping into Categories	10/6 Obs. 1A	10/13 Obs. 2B	10/13 Obs. 2A	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Pre-Reading Skills							
Guiding					1	2	3
Observing			2	7			9
							12
Non-Reading Readiness Skills							
Unsure of letters			1				1
Unsure of words			1				1
							2
Letter Recognition/Upper Case							
Copying From Others			1				1
Letter Recognition			1				1
Copying				3			3
							5
Pictures to Guide							
Relating a Picture				8			8
							8
Inventive Spelling							
Letter Sound Recognition				3			3
Word Recognition			5				6
Sound Recognition		8			3		11
Using Sounding Out Skills			1				1
Sounding Out					2		2
Color Word			1	3	2		6
Relating Letter and Sound			1				1
Reading Readiness				15			15
							44
Creativity							
Creative		1					1
Drawing					4		4
Retelling of Story		3					1
Creating a Story					3		3
Finishing a Story					12		12
Putting Friends into a Story					1		1
Putting Self into Character					1		1
Listening				4			4
Constructing Meaning	1						1
Relating		1	2		1		4
Book not yet Read				2			2
Imagination					12	3	15
Change in Roll					1		1
Change in Interest	1				1		1
							1
							54
Oral Language Development							
Computer Color Word Recognition		1	1			7	9
Computer Word Recognition			15	3			18
Animal Sound Recognition			1				1
Computer Book Recognition			10	16	4	1	31
							59
Thinking							
Thinking		4	12		3	2	21
Thinking Out Loud	8						8
Explaining to Self	1						1
Explaining	15		1		1	4	21
Talking Through Actions			1		3		4
Singing				1	1	4	6
Humming					1	1	2
Talking Out Actions Before Doing Them	1				5	6	12

Movement of Head to Hand	1						1
Puzzled	6	2	8	5	3		24
Deep Thoughts		1					1
Describing					2		2
Responding					2		2
Reflection	35	3	25	7	5	4	79
Visualization			1				1
Observing			2	7			9
Questioning			1				1
Questioning Before Responding	1						1
							196
Feelings-Positive							
Proud Feelings	1			1			2
Excitement	14	11	20	12	10	7	74
Proud		2	6		11		19
Self-Esteem		1	1				2
Disbelief	1						1
Comfortable With Her Response	1						1
							99
Feelings-Negative							
Feeling Guilty	1						1
Sensitive	1						1
Disagreement		1					1
Intense		2					2
Upset		1	3				4
Unsure	5						5
Serious		1					1
							15
Unrelated Occurances							
Unrelated Comment		2	3				5
Off Task Interest	3				6	2	8
							13
Action							
Action	14	1					15
Organization				6			6
Sharing		1					1
Helping		1			1		5
Reading				11		1	12
							36
Other							
Interest	41	2		2	3	1	49
Making a Correction		1				1	2
Persistent		1					1
Informing			1				1
Giving In			1				1
Taking Ownership			1				1
Taking Control			2				2
Opinion					4	1	5
Correction					2		2
Manners					2		2
Suggestion					1		1
Identification					4		4
Describing					2		2
Responding					2		2
Support/Looking for Support		1					1
							76

Appendix C

Table 2.1 Revision One of Categories	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	**Totals**
Pre-Reading Skills							
Guiding					1	2	3
Observing			2	7			9
							12
Reading				11		1	12
Non-Reading Readiness Skills							
Unsure of letters			1				1
Unsure of words			1				1
							2
Letter Recognition/Upper Case							
Copying From Others			1				1
Letter Recognition			1				1
Copying				3			3
							5
Pictures to Guide							
Relating a Word to a Picture				8			8
							8
Inventive Spelling							
Letter Sound Recognition			1	3			4
Word Recognition			5				6
Sound Recognition		8			3		11
Using Sounding Out Skills			1		2		3
Suggestion					1		1
Color Word			1	3	2		6
Identification						4	4
Reading Readiness In Action				15			15
							49
Creativity							
Creative		1					1
Drawing					4		4
Retelling of Story		3					1
Creating a Story					3		3
Finishing a Story					12		12
Putting Friends into a Story					1		1
Putting Self into Character					1		1
Active Listening				4			4
Making A Correction		1	2		1		5
Relating							
Reading a New Book				2			2
Using the Imagination					12	3	15
							50
Computer Color Word Recognition		1	1			7	9
Computer Word Recognition			15	3			18
Animal Sound Recognition			1				1
Computer Book Recognition			10	16	4	1	31
Organization				6			6
							65
Thinking							
Thinking		4	12		3	2	21
Describing						2	2
Explaining to Self	1						1
Explaining	15		1		1	4	21

Singing				1	1	4	6
Humming					1	1	2
Talking Out Actions Before Doing Them	9		1		8	6	24
Puzzled	6	2	8	5	3		24
Describing					2		2
Responding					2		2
Reflection	35	3	25	7	5	4	79
Visualization			1				1
Observing			2	7			9
Questioning Before Responding	1		1				2
							196
Feelings-Positive							
Excitement	14	11	20	12	10	7	74
Self-Esteem	2	3	7	1	1		14
Disbelief	1						1
							89
Feelings-Negative							
Feeling Guilty	1						1
Sensitive	1						1
Disagreement		1					1
Intense		2					2
Upset		1	3				4
Unsure	5						5
Serious		1					1
							15
Unrelated Occurrences							
Unrelated Comment		2	3				5
Off Task Interest	3				6	2	8
							13
Engagement							
Action	14	1					15
							15
							30
Participation							
Sharing		1					1
Helping		4			1		5
							6
Greg's Personality							
Persistent		1					1
Informing			1				1
Giving In			1				1
Taking Ownership			1				1
Taking Control			2				2
Opinion					4	1	5
							11
Lucy's Personality							
Expression of Awareness						2	2
							2
Julie's Personality							
Support/Looking for Support			1				1
							1
Other							
Manners					2		2
Interest	41	2		2	3	1	49
							51

Appendix D

Table 2..2 Revision two of Categories	10/6 Obs. 1A	10/13 Obs. 2A	10/13 Obs. 2B	10/20 Obs. 3	10/25 Obs. 4	10/27 Obs. 5	Totals
Level 1 **Pre-Reading Skills**							
Non-Reading Readiness Skills							
Unsure of letters			1				1
Unsure of words			1				1
Letter Recognition/Upper Case							
Copying from Others			1			3	4
Creativity in Reading							
Drawing					4		4
Active Listening				4			4
Totals							14
Level 2 **Pre-Reading Skills**							
Pre-Reading Skills							
Guiding					1	2	3
Observing			2	7			9
Letter Recognition/Upper Case							
Letter Recognition			1				1
Pictures to Guide							
Relating a Word to a Picture				3			3
Creativity in Reading							
Retelling a Story		1					1
Creating a Story					3		3
Finishing a Story					12		12
Putting a Friend into a Story					1		1
Putting Self into Character					1		1
Making a Correction		1	2		1		5
Relating		1	2		1		4
Using the Imagination					12	3	15
Oral Language Development							
Animal Sound Recognition			1				1
Totals							59
Level 3 **Pre-Reading Skills**							
Inventive Spelling							
Letter Sound Recognition			1	3			4
Word Recognition			6				6
Sound Recognition		8			3		11
Using Sounding out Skills			1		2		3
Suggestions					1		1
Color Word			1	3	2		6
Identification						4	4
Reading Readiness in Action				15			15
Creativity in Reading							
Reading a New Book				2			2
Oral Language Development							
Computer Color Word Recognition		1	1			7	9
Computer Word Recognition			15	3			18
Computer Book Recognition			10	16	4	1	31
Totals							110

Active Reading							
Reading				11		1	12
Reading a New Book				2			2
Total							14
Thinking		4	12		3	2	21
Describing						2	2
Puzzled	6	2	8	5	3		24
Reflection	35	3	25	7	5	4	79
Visualization			1				1
Observing			2	7			9
Organization				6			6
Totals							142
Interactive							
Explaining to Self	1						1
Explaining	15		1		1	4	21
Talking Out Actions Before Doing Them	9		1		8	6	24
Describing					2		2
Responding					2		2
Questioning Before Responding	1		1				2
Totals							52
Feelings-Positive							
Excitement	14	11	20	12	10	7	74
Self-Esteem	2	3	7	1	1		14
Totals							88
Feelings-Negative							
Feeling Guilty	1						1
Sensitive	1						1
Disagreement		1					1
Intense		2					2
Upset		1	3				4
Unsure	5						5
Serious		1					1
Totals							15
Engagement							
Action	14	1					15
Total							15
Participation							
Sharing		1					1
Guiding					1	2	3
Manners					2		2
Helping		4			1		5
Totals							11
Greg's Learning Styles							
Persistent		1					1
Informing			1				1
Giving In			1				1
Taking Ownership			1				1
Taking Control			2				2
Opinion					4	1	5
Totals							11
Julie's Learning Styles							
Singing				1		1	2
Support/Looking for Support			1				1
Off Task Interest					4		4
Active Reading							
Reading				11		1	12
Reading a New Book				2			2
Totals							21
Lucy's Learning Styles							
Expression of Awareness						2	2
Singing					1	3	4
Humming					1	1	2
Unrelated Comment				2		1	3
Off Task Interest	3					2	5

Engagement							
Action	14	1					15
Totals							31
Interest	41	2		2	3	1	49
Totals							49

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